

51 cases which are the subject of inquiry, is, therefore, about twenty months instead of 'one year.' An examination of these cases, given in a tabular form below, shows that respecting six patients I have been unable to obtain the information required; but the weight of such evidence as exists relative to these is greatly in favour of their being better and not worse than the average, since their mean age is only fifty-four years, nearly ten less than the mean of the whole series. As I am compelled to omit these from my reckoning, I believe that my report is less favourable to lithotripsy than it ought to be.

"The number of individuals, then, of whom I have precise information, is 45, averaging about sixty-four years of age. Of these, 11 have since died. The causes, certified by their medical attendants, were—2 of organic heart disease; 1 of malignant disease; 1, at eighty, of natural decay; the other 6 of urinary disorders and advanced age together (the mean age being sixty-six years). All but one of these latter were individuals who for several years had passed no urine except by catheter, who owed their lives solely to surgical art, and who without it must have died miserably some years before. The prolongation of life had been entirely due to the improved modern means of mechanically removing retained urine and accumulated phosphatic deposits. Of the 45, 34 are living still; 28 of them enjoying good health and active existence, at a mean of sixty-three and a half years of age. The other 6 have some signs of recurring calculus, 2 having had a newly formed calculus removed; all are well but one of these, who is in bad health and suffers much.

"I think I may leave these figures to speak for themselves. I shall make one observation, however, which, although a very natural one, does appear not to receive the consideration which I think it deserves. Supposing that these 53 cases of lithotripsy (including 2 deaths with 51 recoveries) had been cut instead of crushed, how many fatal cases would have followed the operation? Their average age being sixty-three, 14 deaths would not have been a bad result, somewhat better than published tables offer us.¹ But after these operations, mainly done in 1873, only 11 deaths have since occurred *up to the present date*. And even if we were to reckon all these as deaths resulting from the operation, although, as may be seen below, they were quite unconnected with it, we still should have a total of recoveries larger than after lithotomy. There is, however, much reason to believe that the few examples of chronic cystitis with recurring phosphatic deposits, subsequent to lithotripsy, occur generally in those feeble and diseased persons to whom lithotomy is most commonly fatal. The fact is, that almost all those patients whose subsequent troubles remain, and who, to superficial observers, appear to discredit lithotripsy, do in reality owe their existence to the operation, and are trophies of life absolutely saved by it.

"Thus it is that lithotripsy, as I have observed, has created a new set of cases—men who, until the process was brought pretty nearly to its present perfection, never lived. Respecting them I should like to write the results of my experience, and hope ere long to do so. They are men whom lithotripsy keeps alive—who, thanks to the ease and safety with which a small and newly formed phosphatic calculus can be crushed, go on for years to live and even to be active. These cases have to be kept apart from other cases of stone, because it would invalidate any inference from numerical statements were a surgeon to reckon as a 'case of lithotripsy' each time, perhaps twice a year or more, he removed a calculus from such a patient, although it might not always necessarily be very small. But it is not to be forgotten that before the time of lithotripsy there was no adequate help for such a patient except by the cutting operation, and many such died miserably with bladders filled with phosphatic material."

58. *Treatment of certain Cases of Stricture of the Urethra by a Combination of Internal and External Division.*—MR. THOMAS ANNANDALE remarks (*Ed. Med. Journ.*, June, 1875) that the recognized treatment of stricture of the urethra, complicated with numerous fistulous openings and great thickening of the perineal and scrotal tissues, is a free external division of the perineum

¹ I may refer to my own table of 1827 cases, collected with great care, among others, as supporting this view. "Lithotomy and Lithotripsy," 2d edit., p. 142.

and strictured part of the urethra. The difficulty of thoroughly dividing the entire strictured portion of the canal Mr. A. has experienced, especially when the stricture is a light one. Another difficulty in such cases is the fact that a considerable extent of the urethra is often involved, or several strictures may exist, and experience shows that unless the whole urethra be properly dilated, a good result cannot be expected.

A few weeks ago a patient was admitted into Dr. A.'s wards, suffering from an aggravated form of this condition. "He had suffered from stricture of the urethra for four years, and about eighteen months before his admission abscesses formed in his perineum, buttocks, and scrotum, and gave rise to numerous fistulous openings in these situations. An examination determined the existence of a tight stricture of the urethra in the region of the bulb and anterior to it. The stricture was nearly two inches in length, and in addition there was a stricture, not so tight, in the anterior part of the urethra, about two inches from the meatus. There were five or six fistulous openings in the perineum, and several others in the buttocks, close to the anal orifice. The whole perineal textures were much thickened, and several hardened nodules of skin and cellular tissue were scattered through this region, resembling somewhat in appearance those occasionally met with in cancerous disease. The whole of the urine was passed through the fistulous openings. With some difficulty a No. 2 metal catheter could be passed through the stricture into the bladder.

"In considering the treatment of this case, I knew it would be necessary to freely incise the middle line of the perineum, and also to divide the strictured portion of the urethra, in order to obtain a cure of the affected parts; but I also knew from experience something of the difficulties in successfully carrying out this proceeding. I was therefore glad to avail myself of a hint which I received in reading some very interesting papers on stricture of the urethra, by Professor Otis, of New York; for his suggestion seemed to me to be one likely to be very valuable in certain cases of the kind under observation. Professor Otis, having a case of stricture complicated with fistulous openings to treat, first incised the perineum, and opened the urethra externally to a slight extent, and then introduced a urethrotome, and freely divided all strictured portions of the canal.

"Taking a lesson from this case of Professor Otis, I operated on my case in the following way:—

"Having passed a No. 2 silver catheter through the strictures into the bladder, I made a free incision in the middle line of the perineum, through the thickened tissues, and opened into the urethra immediately behind the point of the posterior stricture. I made no attempt to divide the stricture by this external incision, but, having removed the catheter, I introduced along the urethra into the bladder the fine-grooved staff of a urethrotome (one after *Maisonneuve's* principle), and then, by passing the knife of this instrument along the whole length of its groove, the entire strictured portions of the canal were thoroughly divided. The whole operation did not occupy more than a few minutes, and I was much impressed with the advantages as regards easy and quick performance over the method of external division as usually followed. A No. 12 catheter was readily passed into the bladder after the operation, and was retained there for twenty-four hours. The patient's progress after the operation was in every way satisfactory. The thickening of the tissues gradually but entirely disappeared, and the fistulous openings soundly closed. The urine now comes freely by the natural way, and a No. 12 bougie can be easily passed along the whole course of the urethra into the bladder. The operation wound in the perineum has nearly closed, and not more than a drop of urine passes occasionally through it.

"A second case of urinary fistula was shortly after admitted into my wards, and was treated in the same way, with a like good result."

This plan of operating appears to Mr. A. to be well worthy the notice of surgeons. "I do not," he says, "advocate it in cases of stricture other than those of which the cases related are illustrative examples; but I have no hesitation in strongly recommending it in suitable cases. Internal division is be-

coming more and more recognized in this country as the safest and most efficient treatment of strictures of the urethra which do not yield to simple dilatation, and my extended experience of this operation during the last few years has made me a firm advocate of it in proper cases.

"The combination of internal division with external division in complicated strictures such as have just been illustrated by these cases, has, in my opinion, the following advantages over external division alone:—

"(1.) The complete and accurate division of all strictured portions of the urethra.

"(2.) Its easy accomplishment.

"In cases of complicated urinary fistula, in which the stricture of the urethra is impassable to instruments, or a portion of the canal is obliterated, I should, in the first instance, endeavour to re-establish a passage by external division; and then, if any portion of the urethra could still be felt to be strictured, I would introduce the urethrotome, and freely divide by internal division such contracted portion."

59. *Rupture of the Urethra*.—M. NOTTA submitted to the Surgical Society of Paris at a recent meeting the question: "What conduct should the surgeon pursue in cases of violent contusion of the perineum with rupture of the urethra without external wound, but complicated with retention of urine?" When we consult the classical authors we find ourselves greatly embarrassed, for while some of them advise supra-pubic puncture, others practise incisions in the perineum, and others, again, recommend antiphlogistics first being had recourse to. In presence of such divergencies, M. Notta relates three cases that have terminated successfully, and which he believes are of interest. In the first the patient had received violent kicks in the perineum, and at the end of thirty-six hours urinary infiltration had spread into the scrotum. Free egress was given to this by a large incision, and three days after a catheter was passed and left in (*sonde à demeure*). Fifty days after, the man was discharged cured. In the second case, contusion of the perineum was produced by the fall of an enormous stone, and four hours afterwards the perineum was found distended, and a catheter could not be passed. The urine was at once discharged by a button-hole operation in order to prevent infiltration, but the patient was lost sight of during three weeks, no catheter having been passed during that period. He was now menaced with retention by the cicatrization of the perineal wound, and a laborious dissection of indurated tissues became necessary to find the two ends of the ruptured urethra and pass a *sonde à demeure*. After several months of treatment, and the performance of internal urethrotomy, the patient was cured. In the third case, a mason fell astride a joist and exhibited the signs of rupture of the urethra, the distended bladder rising up to the umbilicus. A perineal incision gave issue to the urine, and a week after a *sonde à demeure* was introduced, and in five weeks after the accident the patient was cured, passing his urine freely by the urethra.

Thus, in these three cases, as soon as catheterism was found to be impossible, a large perineal incision was practised in the perineum. Supra-pubic puncture was not resorted to, for a great number of cases that have been published show that this has not prevented the formation of abscess in the perineum, which has compelled the surgeon to resort to the perineal incision, with which he had better have commenced. After from three to eight days the wound becomes sufficiently cleansed to allow of the *sonde à demeure* being passed for the purpose of re-establishing the integrity of the canal—the introduction of this being much facilitated by employing a long flexible whalebone bougie as a conductor. M. Notta always employs vulcanized caoutchouc catheters, which, being little acted upon by the urine, can remain a long time in the bladder without being changed. The incision into the perineum often requires to be very deep, in consequence of the great tumefaction that has taken place, and M. Notta has had to plunge his bistoury to a depth of ten centimetres.

M. Guyon observed that he had often met with these cases, and pursues a practice very like that recommended by M. Notta. It is dangerous to endeavour to penetrate into the bladder by the urethra, for the lacerations may